

FIG. 1

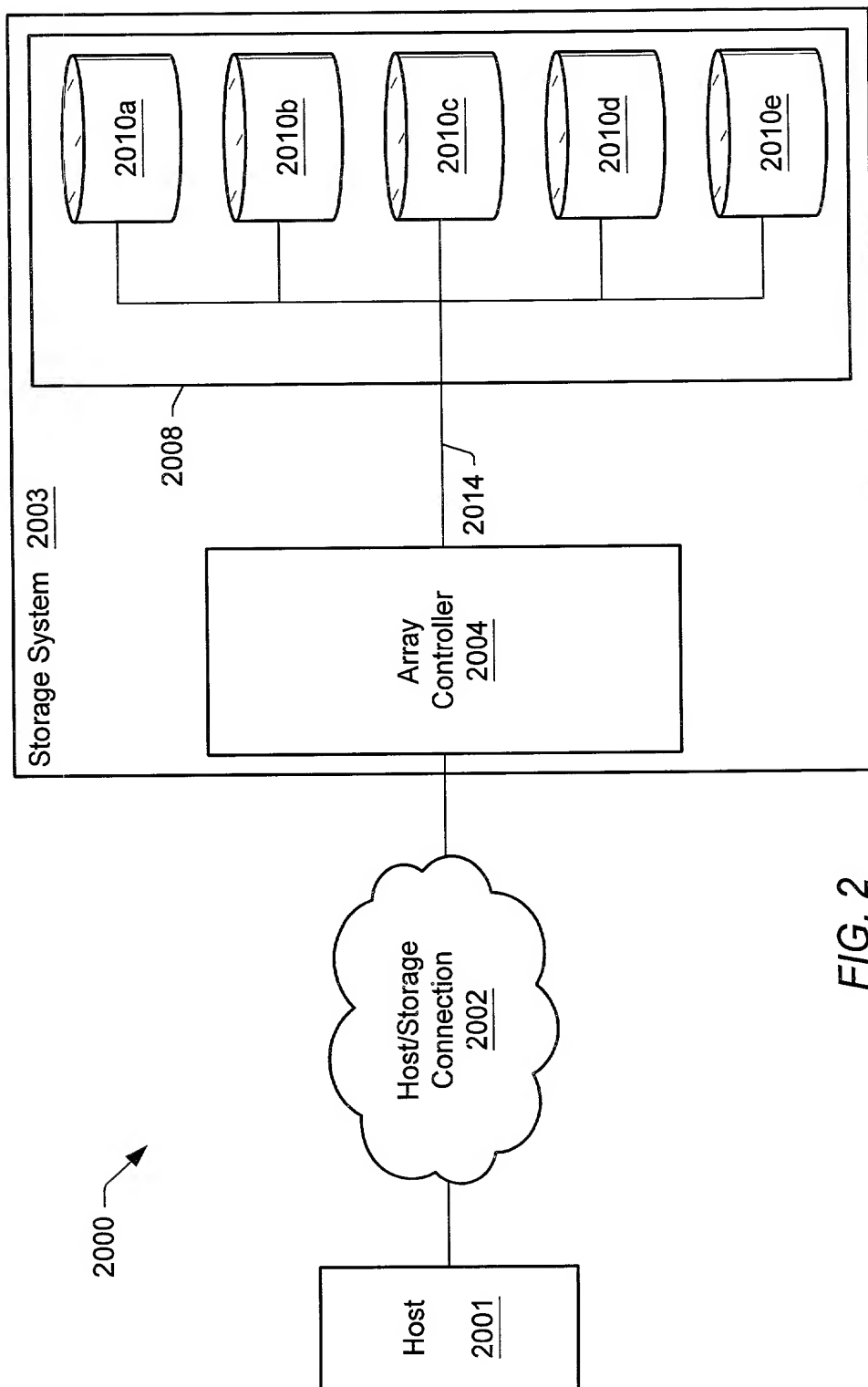


FIG. 2

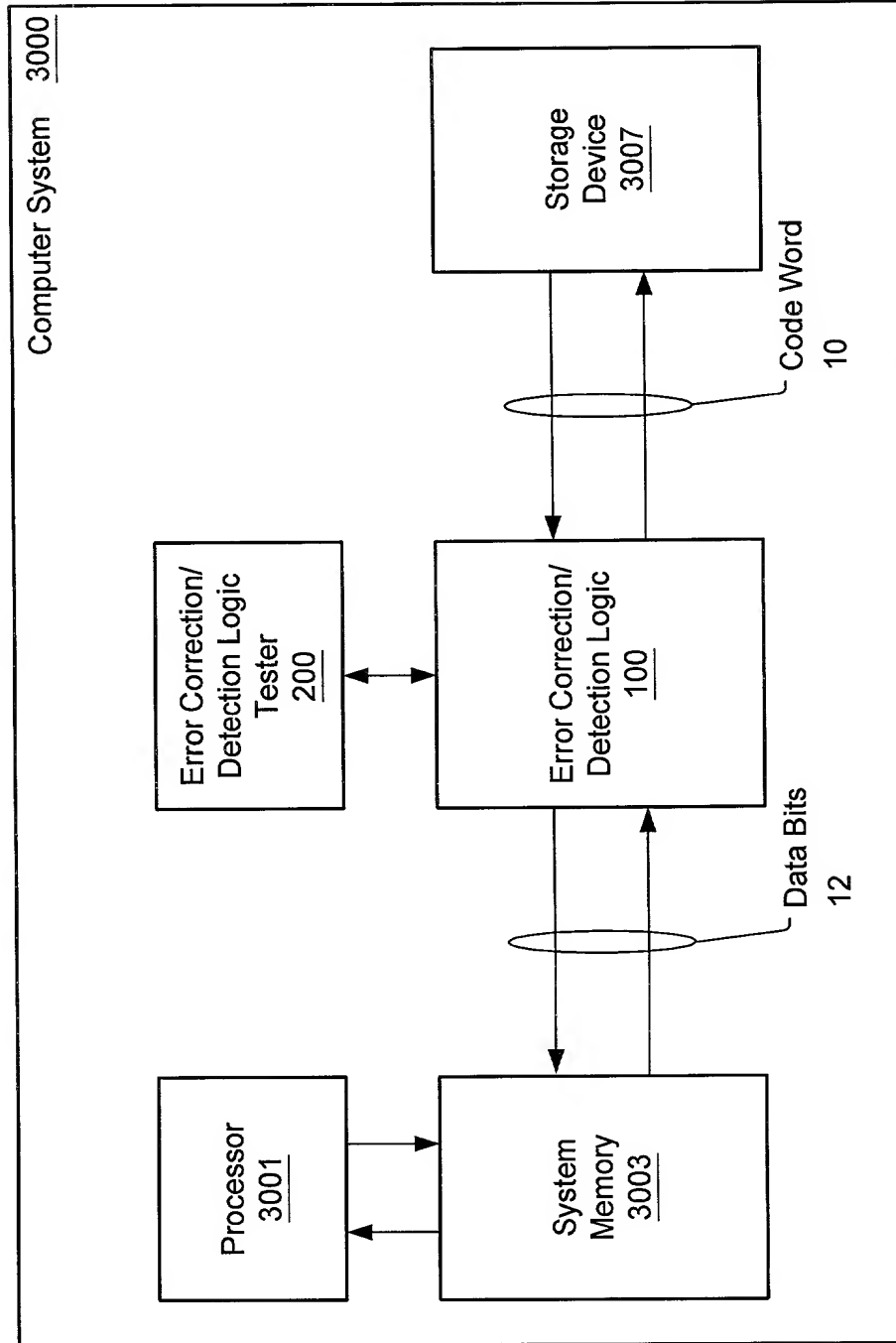


FIG. 3

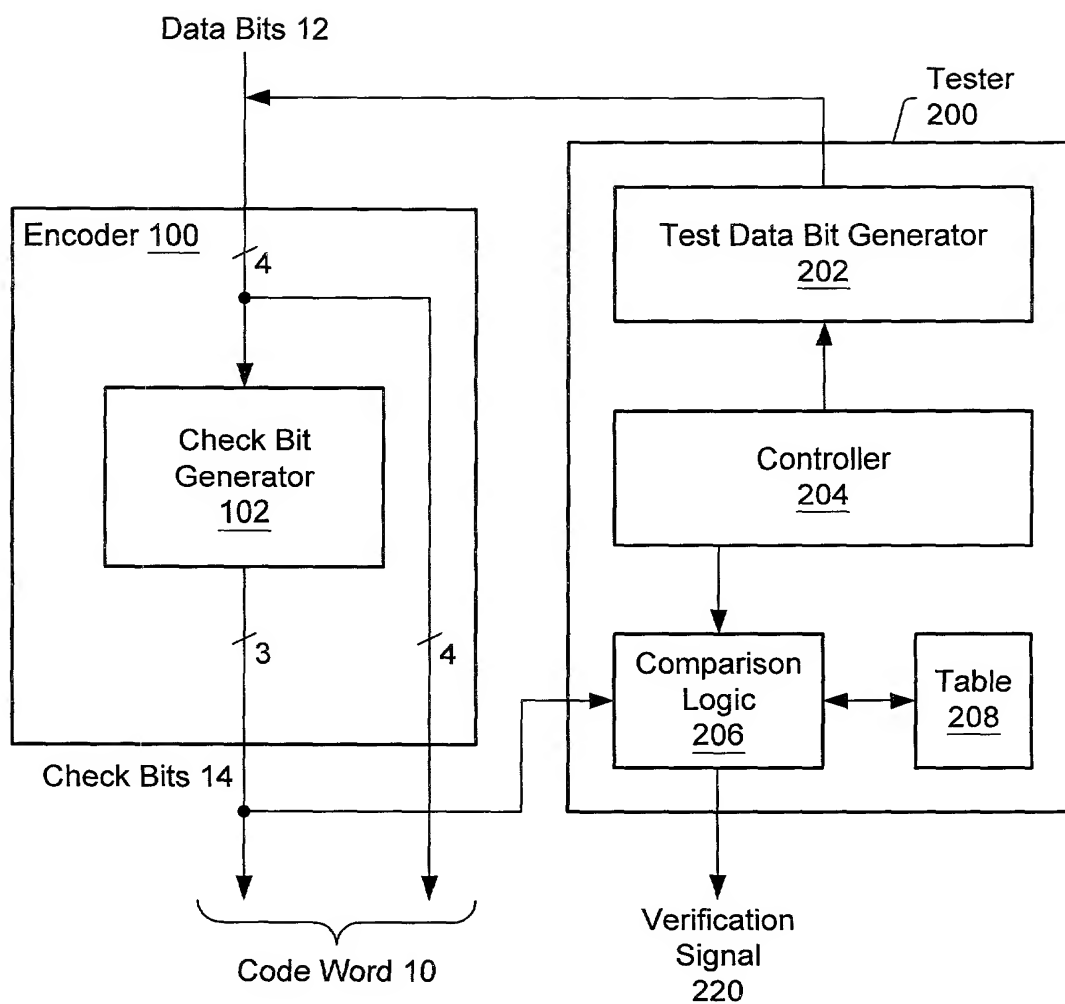


FIG. 4A

Data Bits 12				Check Bits 14			Parity Check Matrix 20
d0	d1	d2	d3	c0	c1	c2	
1	1	1	0	1	0	0	
1	1	0	1	0	1	0	
1	0	1	1	0	0	1	
(7)	(6)	(5)	(3)	(4)	(2)	(1)	
Encoded Value of each Column							

Check Bit Equations 22

$$c0 = d0 \text{ XOR } d1 \text{ XOR } d2$$

$$c1 = d0 \text{ XOR } d1 \text{ XOR } d3$$

$$c2 = d0 \text{ XOR } d2 \text{ XOR } d3$$

FIG. 4B

← Table 30

Data Bits 12				Check Bits 14		
d0	d1	d2	d3	c0	c1	c2
0	0	0	0	0	0	0
0	0	0	1	0	1	1
0	0	1	0	1	0	1
0	0	1	1	1	1	0
0	1	0	0	1	1	0
0	1	0	1	1	0	1
0	1	1	0	0	1	1
0	1	1	1	0	0	0
1	0	0	0	1	1	1
1	0	0	1	1	0	0
1	0	1	0	0	1	0
1	0	1	1	0	0	1
1	1	0	0	0	0	1
1	1	0	1	0	1	0
1	1	1	0	1	0	0
1	1	1	1	1	1	1

FIG. 4C

Data Bits 12				Check Bits 14			Table 40A
d0	d1	d2	d3	c0	c1	c2	
0	0	0	1	0	1	1	
0	0	1	0	1	0	1	
0	1	0	0	1	1	0	
1	0	0	0	1	1	1	

FIG. 4D

Data Bits 12				Check Bits 14			Table 40B
d0	d1	d2	d3	c0	c1	c2	
0	1	1	1	0	0	0	
1	0	1	1	0	0	1	
1	1	0	1	0	1	0	
1	1	1	0	1	0	0	

FIG. 4E

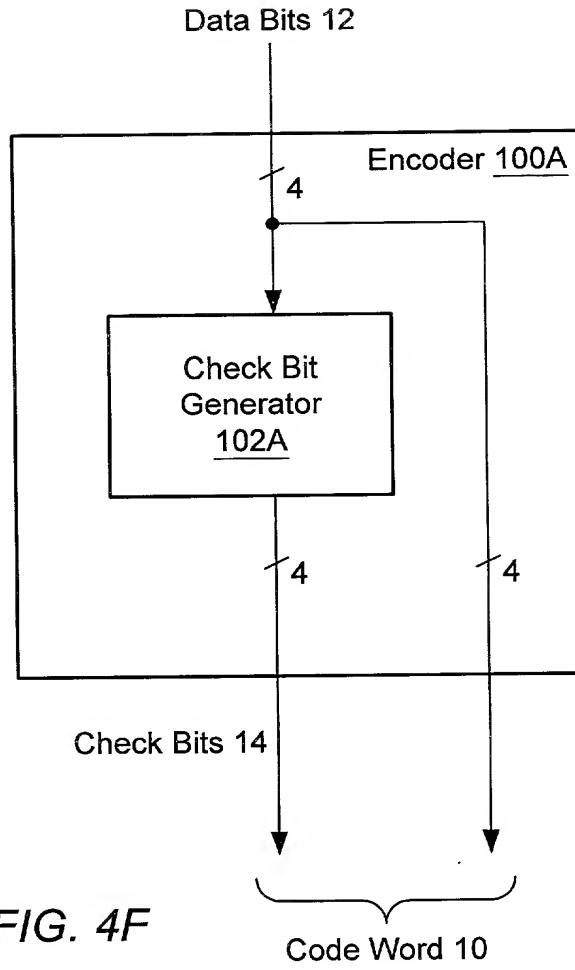


FIG. 4F

Data Bits 12				Check Bits 14			
d0	d1	d2	d3	c0	c1	c2	c3
1	1	1	0	1	0	0	0
1	1	0	1	0	1	0	0
1	0	1	1	0	0	1	0
0	1	1	1	0	0	0	1
(14)	(13)	(11)	(7)	(8)	(4)	(2)	(1)

Encoded Value Of
Each Column

Parity Check
Matrix 20A

Check Bit Equations 22A

$$c0 = d0 \text{ XOR } d1 \text{ XOR } d2$$

$$c1 = d0 \text{ XOR } d1 \text{ XOR } d3$$

$$c2 = d0 \text{ XOR } d2 \text{ XOR } d3$$

$$c3 = d1 \text{ XOR } d2 \text{ XOR } d3$$

FIG. 4G

↖ Table 30A

Data Bits 12				Check Bits 14			
d0	d1	d2	d3	c0	c1	c2	c3
0	0	0	0	0	0	0	0
0	0	0	1	0	1	1	1
0	0	1	0	1	0	1	1
0	0	1	1	1	1	0	0
0	1	0	0	1	1	0	1
0	1	0	1	1	0	1	0
0	1	1	0	0	1	1	0
0	1	1	1	0	0	0	1
1	0	0	0	1	1	1	0
1	0	0	1	1	0	0	1
1	0	1	0	0	1	0	1
1	0	1	1	0	0	1	0
1	1	0	0	0	0	1	1
1	1	0	1	0	1	0	0
1	1	1	0	1	0	0	0
1	1	1	1	1	1	1	1

FIG. 4H

↙ Table 40C

Data Bits 12				Check Bits 14			
d0	d1	d2	d3	c0	c1	c2	c3
0	0	0	1	0	1	1	1
0	0	1	0	1	0	1	1
0	1	0	0	1	1	0	1
1	0	0	0	1	1	1	0

FIG. 4I

↙ Table 40D

Data Bits 12				Check Bits 14			
d0	d1	d2	d3	c0	c1	c2	c3
0	1	1	1	0	0	0	1
1	0	1	1	0	0	1	0
1	1	0	1	0	1	0	0
1	1	1	0	1	0	0	0

FIG. 4J

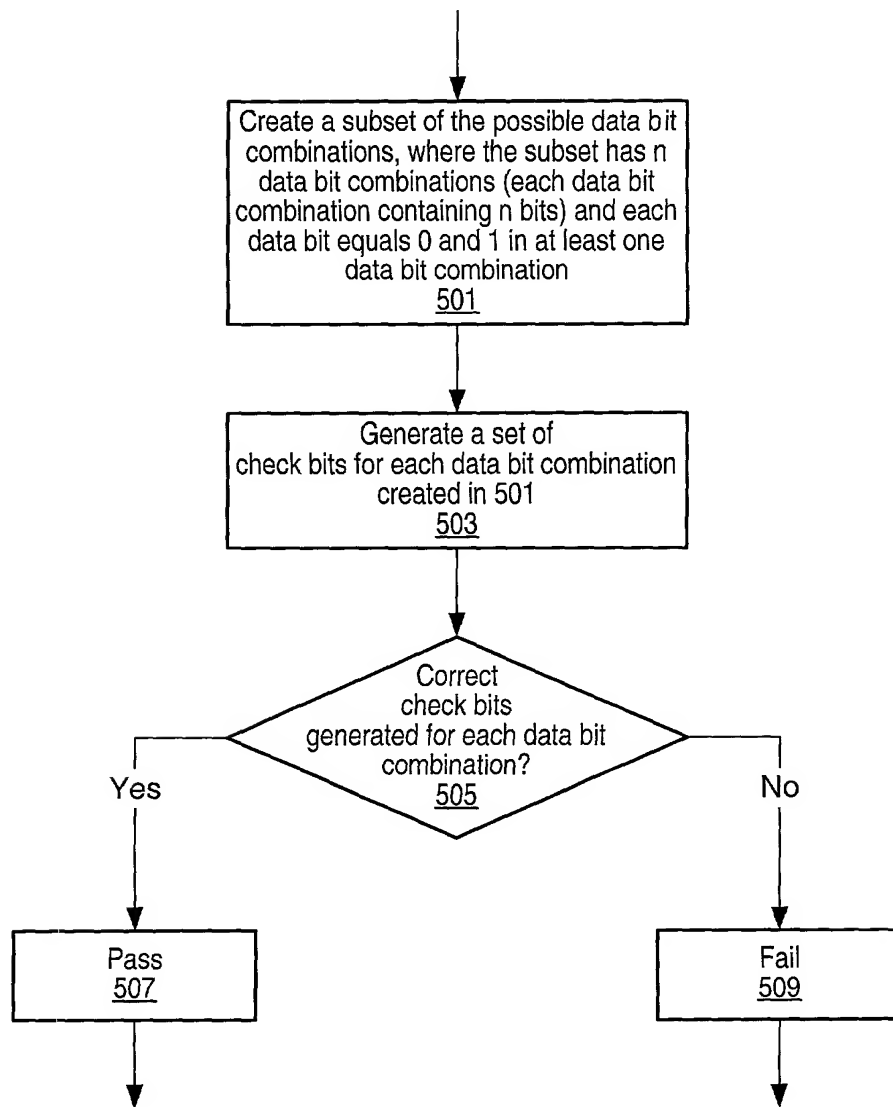


FIG. 5

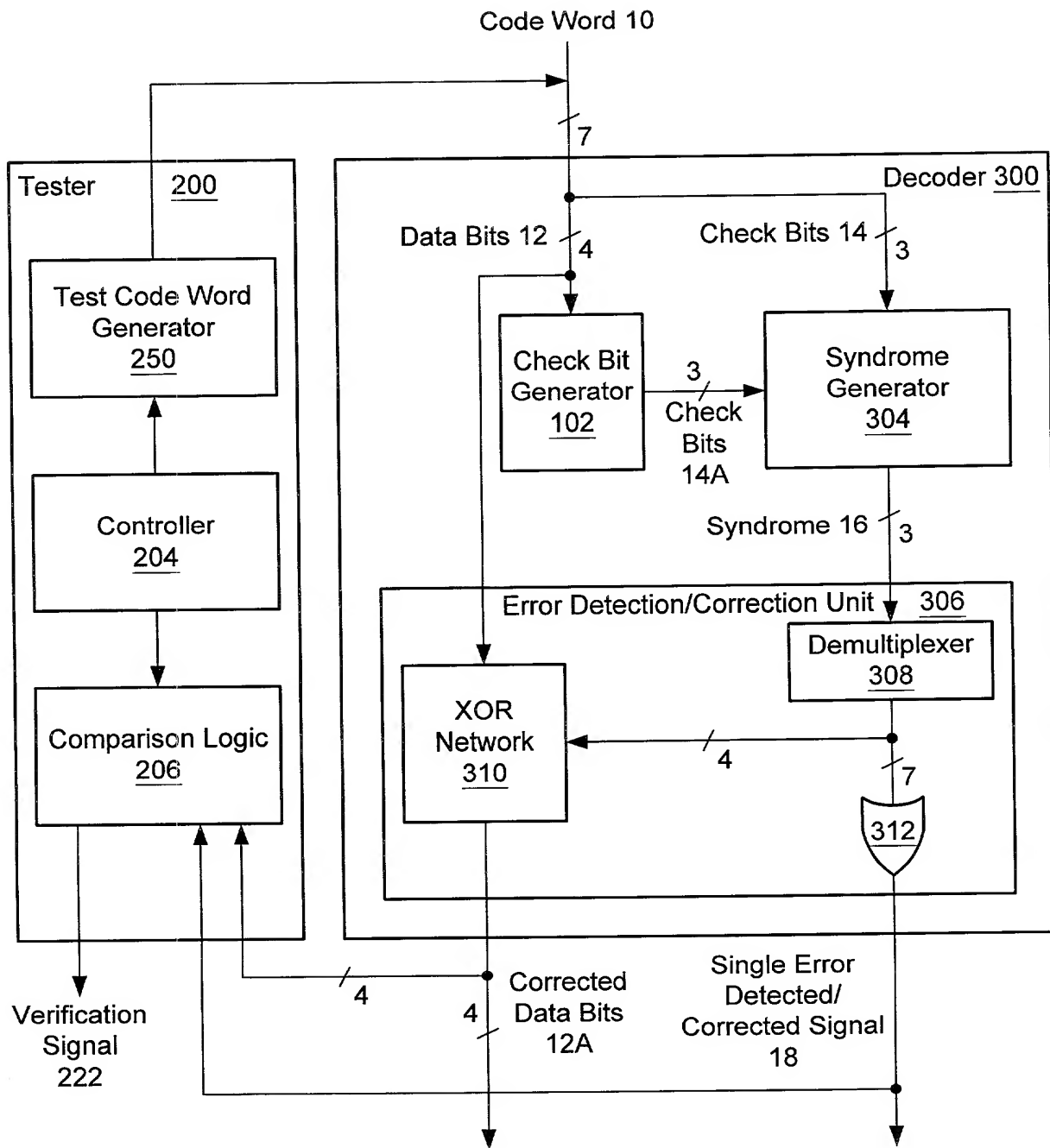


FIG. 6A

Regenerated Check Bit Equations 22A

$$\text{new } c0 = d0 \text{ XOR } d1 \text{ XOR } d2$$

$$\text{new } c1 = d0 \text{ XOR } d1 \text{ XOR } d3$$

$$\text{new } c2 = d0 \text{ XOR } d2 \text{ XOR } d3$$

Syndrome Equations 24

$$s0 = c0 \text{ XOR } \text{new } c0$$

$$s1 = c1 \text{ XOR } \text{new } c1$$

$$s2 = c2 \text{ XOR } \text{new } c2$$

Table 50A

Error	Code Word 10							Syndrome 18		
	d0	d1	d2	d3	c0	c1	c2	s0	s1	s2
none	0	0	0	0	0	0	0	0	0	0
c2	0	0	0	0	0	0	1	0	0	1
c1	0	0	0	0	0	1	0	0	1	0
c0	0	0	0	0	1	0	0	1	0	0
d3	0	0	0	1	0	0	0	0	1	1
d2	0	0	1	0	0	0	0	1	0	1
d1	0	1	0	0	0	0	0	1	1	0
d0	1	0	0	0	0	0	0	1	1	1

FIG. 6B

Regenerated Check Bit Equations 22A Syndrome Equations 24

new c0 = d0 XOR d1 XOR d2
 new c1 = d0 XOR d1 XOR d3
 new c2 = d0 XOR d2 XOR d3
 new c3 = d1 XOR d2 XOR d3

s0 = c0 XOR new c0
 s1 = c1 XOR new c1
 s2 = c2 XOR new c2
 s3 = c3 XOR new c3

Table 50B

error	Code Word 10								Syndrome 18			
	d0	d1	d2	d3	c0	c1	c2	c3	s0	s1	s2	s3
none	0	0	0	0	0	0	0	0	0	0	0	0
c3	0	0	0	0	0	0	0	1	0	0	0	1
c2	0	0	0	0	0	0	1	0	0	0	1	0
c1	0	0	0	0	0	1	0	0	0	1	0	0
c0	0	0	0	0	1	0	0	0	1	0	0	0
d3	0	0	0	1	0	0	0	0	0	1	1	1
d2	0	0	1	0	0	0	0	0	1	0	1	1
d1	0	1	0	0	0	0	0	0	1	1	0	1
d0	1	0	0	0	0	0	0	0	1	1	1	0

FIG. 6C

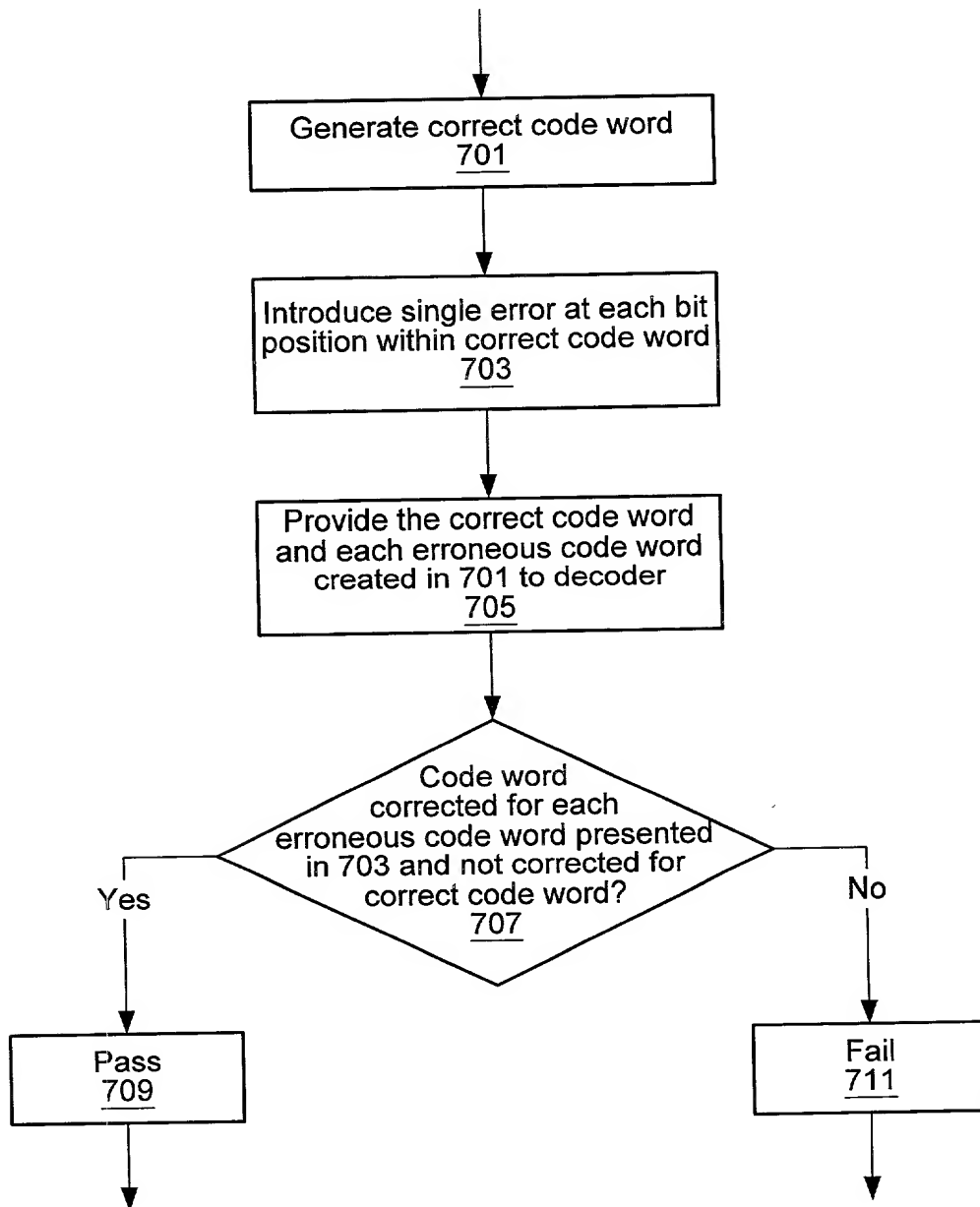


FIG. 7

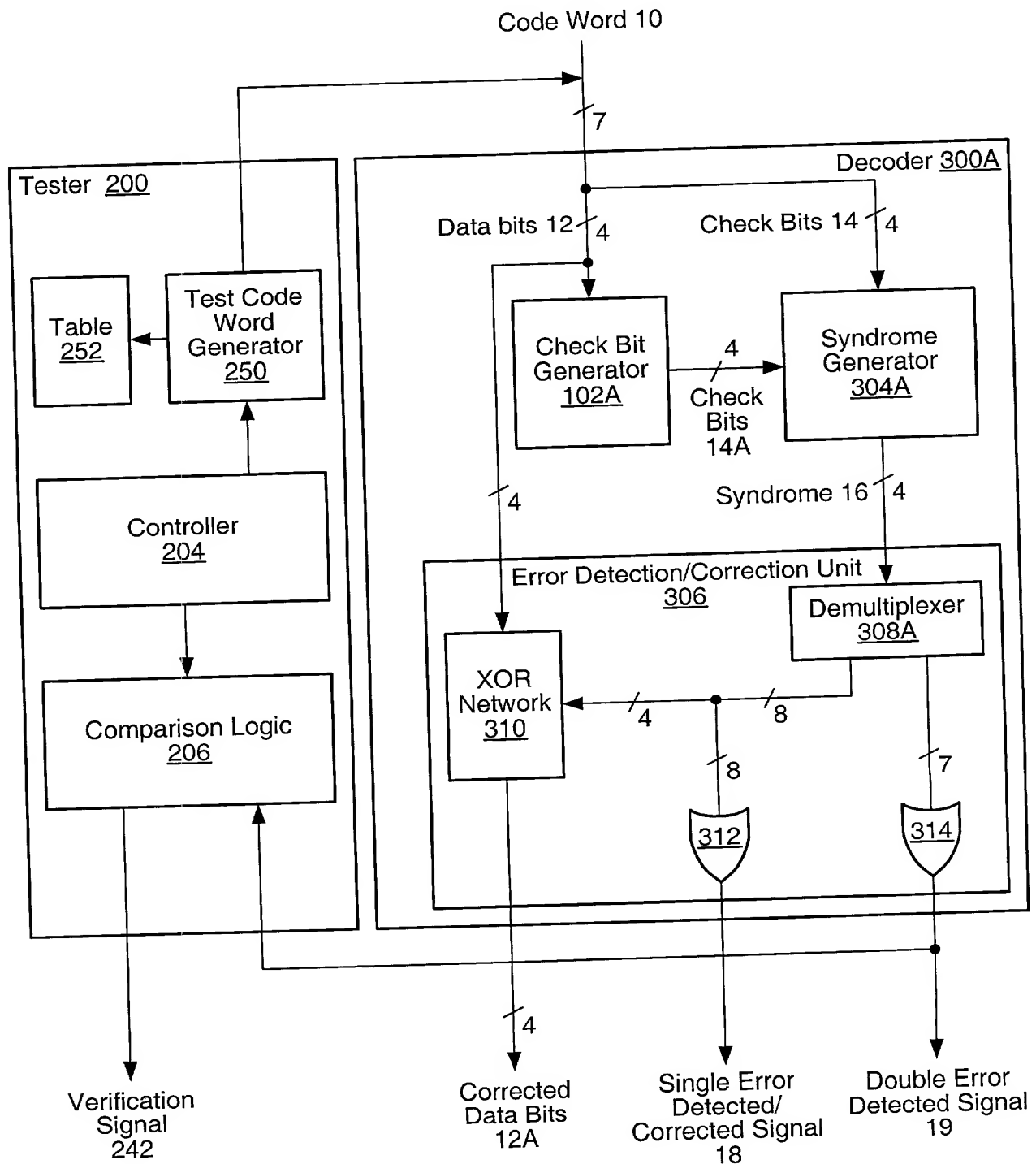


FIG. 8A

Table 60

Used Syndromes				Encoded Binary Value	Identified Error
0	0	0	0	0	None
0	0	0	1	1	c3
0	0	1	0	2	c2
0	1	0	0	4	c1
1	0	0	0	8	c0
0	1	1	1	7	d3
1	0	1	1	11	d2
1	1	0	1	13	d1
1	1	1	0	14	d0

Table 70

Unused Syndromes				Encoded Binary Value
0	0	1	1	3
0	1	0	1	5
0	1	1	0	6
1	0	0	1	9
1	0	1	0	10
1	1	0	0	12
1	1	1	1	15

FIG. 8B

